

Is there an optimal CD gain for pointer precision?

Project Description

I intend to determine whether there is an optimal CD gain that maximizes mouse use efficiency for the majority of people. To do so, I will conduct research on the topic to assess the current body of knowledge on the topic and conduct a small experiment.

Experiment

The experiment will involve the subject using their trackpad or mouse to click a series of ten targets at varying CD gain levels (1, 3.5, 5, 7.5, and 10). To mitigate asymmetric skill transfer, the various settings will be presented to the subject in a random order. To gauge which setting is best, the time the subject takes to click each target will be recorded. When the subject has finished each of the fifty tasks, averages per CD gain level will be calculated.

The testing software will be developed using Java or the Unity game engine, depending on which is better suited for implementation of the necessary tests.

Data Collection

Subjects will be provided with the testing software to run on their own computers. Upon completion of all tasks, the subject will be presented with the calculated averages and a link to an online survey. There they will report those averages along with whether they used a trackpad or a mouse to complete the tasks.

Motivation and Benefit

From time to time, I use computers that are not my own. Therefore, the CD gain is not that to which I am accustomed. In most cases, it is not a great hindrance and I adapt to the foreign setting quickly. Occasionally, however, the cursor is either so fast or so slow that it noticeably inconveniences me. It is sure that others experience similar disengagement with the computer at CD gain levels drastically different than those to which they are accustomed.

Therefore, in the interest of minimizing these effects for most people, it would be useful to determine a CD gain level that allows most people to concentrate on their current task. That knowledge would be useful as a default setting for personal computers in general and applications like video games in which cursor sensitivity plays a vital role alike.